

# Assessment of the state of exploitation and development of sustainable management and farming proposals for seaweeds in Andalusia, Asturias and Galicia

A free action financed by the European Fisheries Fund with the support and collaboration of the Biodiversity Foundation of the Ministry of Agriculture, Food and Environment.

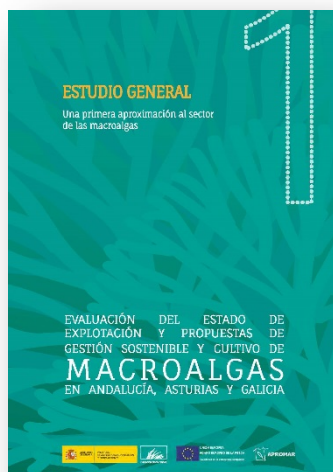


## Objetive

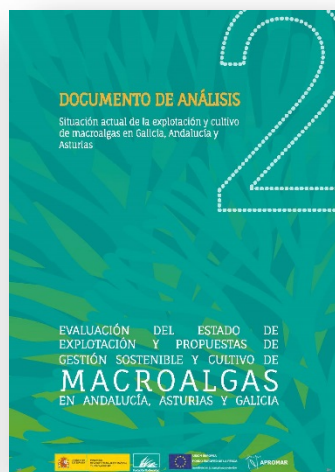
Development of a sustainability plan, a guide to good practices and R&D goals about exploitation and seaweed farming in Andalusia, Asturias and Galicia

# Assessment of the state of exploitation and development of sustainable management and farming proposals for seaweeds in Andalusia, Asturias and Galicia

General study



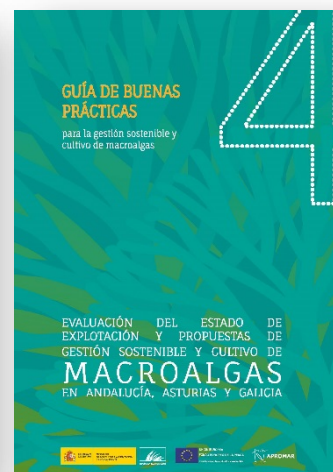
Analysis document



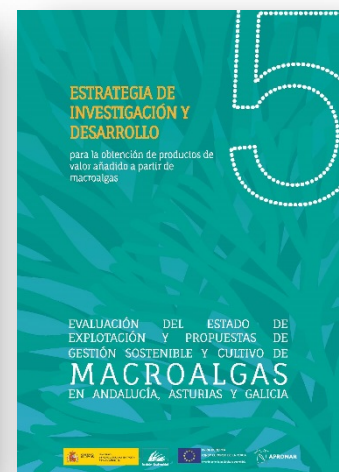
Management plans



Guide to good practice



R&D strategy



<http://www.apromar.es/content/documentos-finales-proyecto-algas>



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE AGRICULTURA, ALIMENTACIÓN  
Y MEDIO AMBIENTE



Fundación Biodiversidad



UNIÓN EUROPEA  
FONDO EUROPEO DE LA PESCA

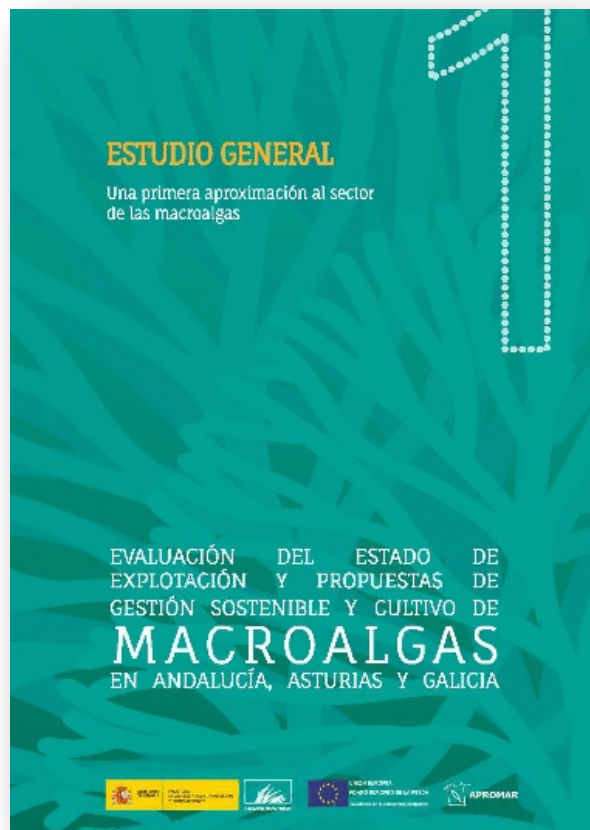
Invertimos en la acuicultura sostenible



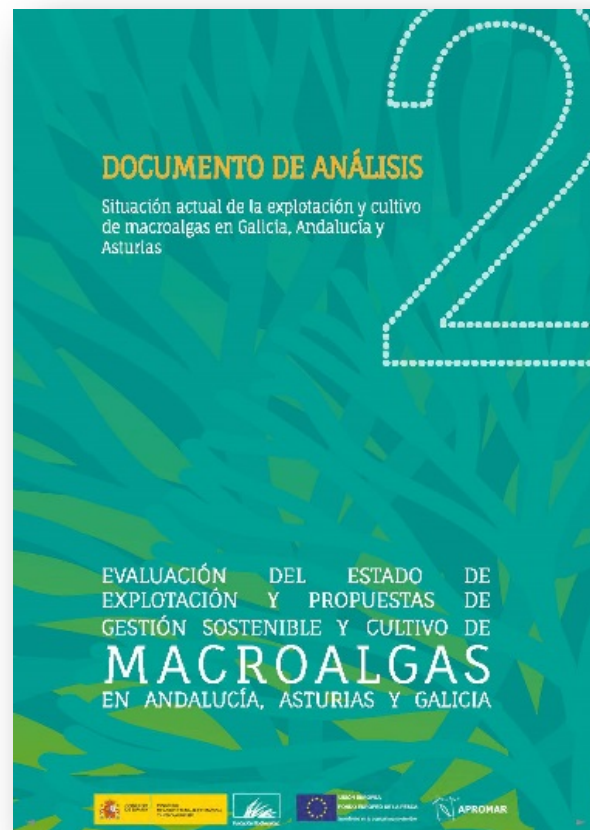
APROMAR

# Assessment of the state of exploitation and development of sustainable management and farming proposals for seaweeds in Andalusia, Asturias and Galicia

General study



Analysis document



# Sustainable seaweeds management plans



- Standing stock assessment
- Impact assessment of harvesting techniques
- Regulation rules and management of extractive activities
- Development of guides to good practices
- Inclusion in Integrated Coastal Zone Management
- Structuring the sector
- Training and communication
- Promotion of applied research



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE AGRICULTURA, ALIMENTACIÓN  
Y MEDIO AMBIENTE



Fundación Biodiversidad



UNIÓN EUROPEA  
FONDO EUROPEO DE LA PESCA  
Invertimos en la acuicultura sostenible



APROMAR



# Sustainable seaweed exploitation & farming:

## Guide to good practices, general principles



- Seaweeds are resources with their own idiosyncrasy  
... and as such they should be treated
  - Biological plasticity
  - Versatility of uses
  - High rate of renewal
  - Living *of* the water
- We should work towards their cultivation
  - Primary producers
  - Structural role



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE AGRICULTURA, ALIMENTACIÓN  
Y MEDIO AMBIENTE



Fundación Biodiversidad



UNIÓN EUROPEA  
FONDO EUROPEO DE LA PESCA  
Invertimos en la acuicultura sostenible



APROMAR

# Guide to good practices:

## Criteria to keep in mind



- General criteria

- Farming potentiality
- Product destination
- Identification mistakes
- Biofiltration capacity
- Collateral damage
- Climate change

- Specific criteria

- Biology
- Habitat
- Phenology
- Sociology
- Chorology



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE AGRICULTURA, ALIMENTACIÓN  
Y MEDIO AMBIENTE



Fundación Biodiversidad



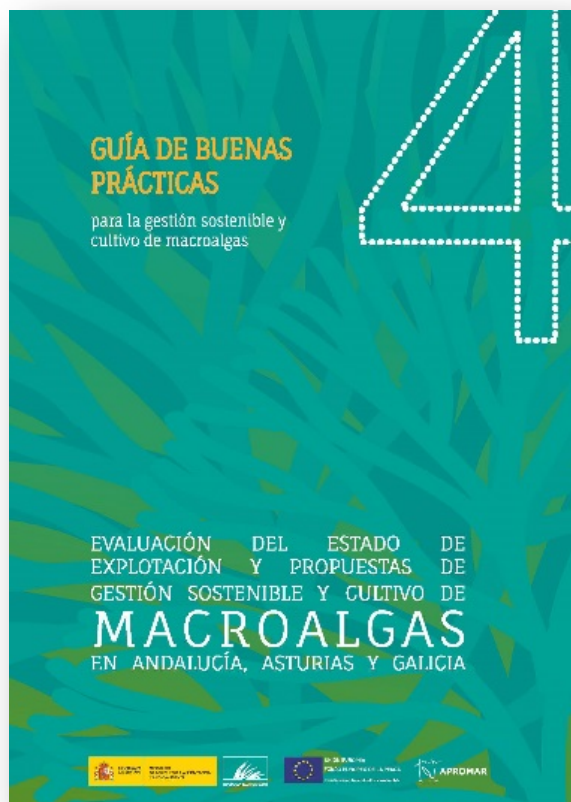
UNIÓN EUROPEA  
FONDO EUROPEO DE LA PESCA  
Invertimos en la acuicultura sostenible



APROMAR

# Guide to good practices:

## General classification of seaweeds resources



- Edible seaweeds
  - Non-exploitable seaweeds
  - Regulated exploitation seaweeds
  - Supervised exploitation seaweeds
- Raw materials for phycocolloids extraction
  - Agarophytes
  - Carrageenophytes



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE AGRICULTURA, ALIMENTACIÓN  
Y MEDIO AMBIENTE



Fundación Biodiversidad



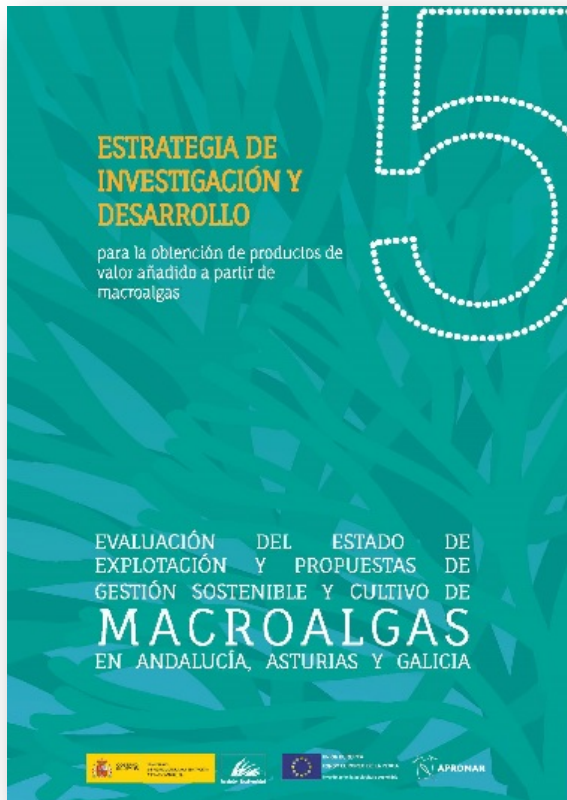
UNIÓN EUROPEA  
FONDO EUROPEO DE LA PESCA  
Invertimos en la acuicultura sostenible



APROMAR

# Research & Development Strategy

## Main areas of research:



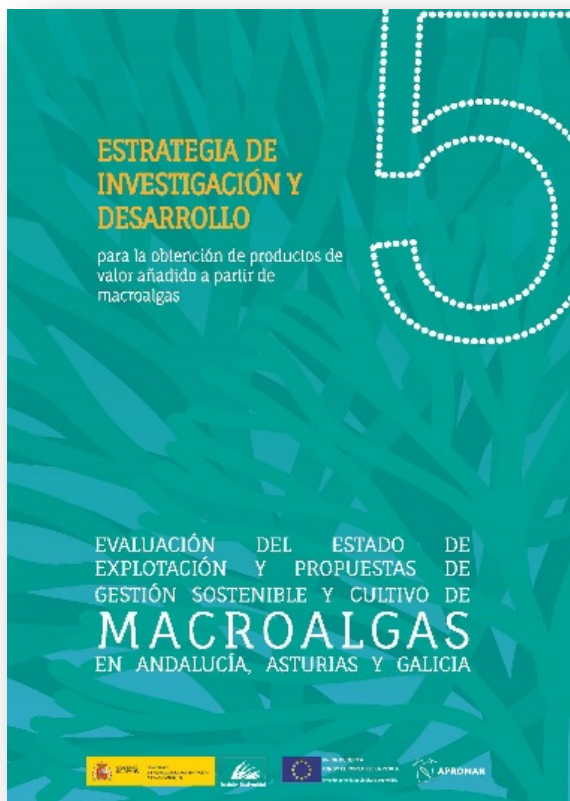
- Bioactive compounds
- Human Food & Welfare
- Agriculture & Feed
- Phycocolloids
- Ecosystem services

The R&D in the uses of seaweed should be related to the biorefinery concept and prioritize the usage of residues from phycocolloids industry or the large amounts of seaweeds washed ashore due to excessive seawater eutrophication (e.g. green tides)



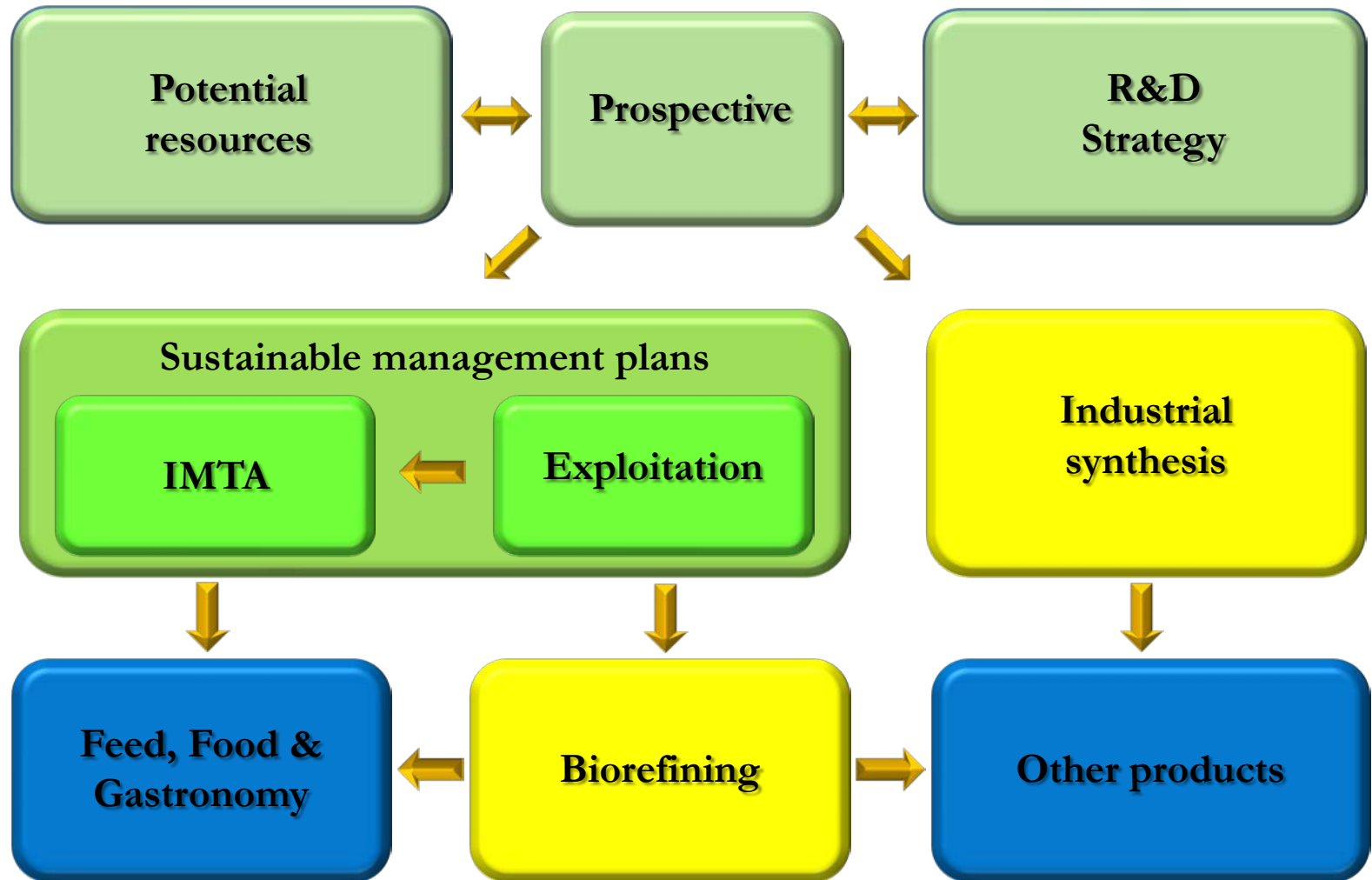
# Research and Development Strategy

Is necessary to make a major research effort in:



- Prospecting new molecules with high bioactivity and determination of their biosynthetic pathways
- The seaweeds antimicrobial properties
- To proven scientifically the safety and benefits from using seaweeds in the food, nutraceutical and cosmetics sectors
- To strengthen the use of seaweed as a feed source in livestock and aquaculture
- The encouragement of seaweed farming in IMTA systems providing special attention to the possibilities offered by this system for the production of new species and the customization of their content in compounds of interest

# General approach







Many thanks for your attention

